DETAILED ACTION

Applicant's amendment filed on November 15, 2010 is acknowledged and has been entered. Claim 179 has been amended. Claims 1-177 have been canceled. Claims 178-183 are pending.

Claims 178-183 are discussed in this Office action.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on November 5, 2010 and December 15, 2010 were filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Nishita Doshi on February 9, 2011.

The application has been amended as follows:

In claim 182, delete "a signature" and replace "signatures".

Allowable Subject Matter

Claims 178-183 allowed.

The following is an examiner's statement of reasons for allowance: The claims require that the nucleic acid is labeled with a marker that is minimally specific for identification of individual chromosomes, or genes. Furthermore, the claims require that the nucleic acid is moved past electromagnetic radiation using a polymerase that is tethered, movement which can be achieved by polymerase extension. While polymerase extension, sequence specific fluorescent labeling and tethering of a polymerase are known in the prior art, the prior art does not teach or suggest monitoring of polymerase extension through the inclusion of labels with any degree of sequence specificity. The closest prior art, Yin, teaches a tethered polymerase and monitoring of polymerase extension, While Nie teaches detection using confocal microscopy. However, the combination of references or the prior art does not teach or suggest including a sequence specific marker or label or detection of the label while the polymerase moves the nucleic acid past the electromagnetic radiation. A careful review of the prior art shows that it would not have been considered obvious to have included a sequence specific FRET-independent fluorescent marker for extension or incorporation by a polymerase, while the polymerase is actively extending or moving the nucleic acid. Therefore, these claims are considered novel and non-obvious over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHANIE K. MUMMERT whose telephone number is (571)272-8503. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephanie K. Mummert/
Primary Examiner, Art Unit 1637

SKM